A Message from the

Editor

Welcome to the Spring 2001 issue of Bede News. This issue is full of good news for the company, including the announcement of an $18 million contract from a leading semiconductor manufacturer, and good results in the company's first annual report.

Bede is beginning to put plans into place for further growth of the company with new buildings and heavy recruitment. In April, building work started on the new custom-built premises which will house the Bede plc office and the operations of Bede Scientific Instruments Ltd.

On 1 July, Bede Inc staff will be moving into their new, bigger premises.

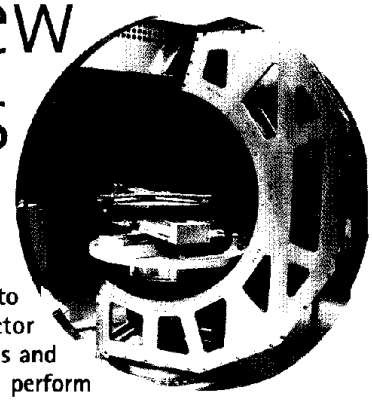
It's big changes all around!

Melanie Carter
Editor

New investor relations information for Bede website

Investor relations information, including Bede plc's first Annual Report (year end 2000) is now live on the Bede website. The investor relations pages reflect our new corporate identity. Work has also begun on the main part of the site and is due to be completed by the end of this year.

Bede introduces new line of X-ray tools for large wafers



fast, accurate, encoded motions - versatility for all X-ray methods

The Fab200™ and Fab300™ are two new X-ray tools developed to meet the needs of our customers in high volume semiconductor manufacturing markets. The tools are designed for fabrication lines and advanced characterization laboratories using large wafers. They can perform all the diffraction and reflectivity measurements that are possible on Bede's research diffractometers, but with higher speed and full automation. These measurements include:

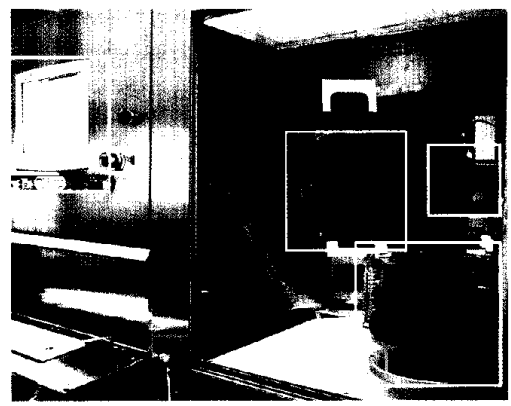
- High resolution XRD
- Thin film reflectivity
- Texture measurements
- Stress measurements
- Triple axis diffraction and reciprocal space maps
- Powder/polycrystalline film XRD
- Diffuse scatter

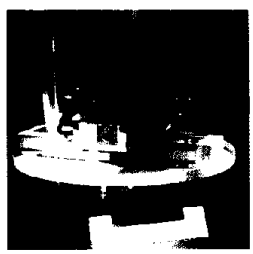
The instruments provide users with automation of the complete process. Once a wafer carrier is loaded, a robot loads each wafer. A "recipe" controls the wafer alignment (locating the X-ray beam on a "selective epi" spot as small as 300 microns if required), X-ray data collection and interpretation with no user intervention, using Mercury, Bede's patented genetic algorithm software.

The Fab300™, with its Class 2 mini-environment and FOUP loadport, will be used for automated analysis on 300mm silicon fabrication lines in a "lights-out" factory. The Fab200™, which can be provided with a SMIF front end, is used in 200mm silicon lines and in compound semiconductor foundries that handle wafers from 50 to 150mm. The immense power and flexibility of the tools mean that, if there is a problem on the production line, they have the capability to investigate the production process in much more detail. They are also ideal tools for "fab research" laboratories, for characterizing new pre-production processes.

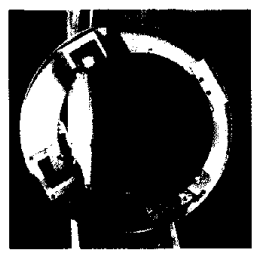
These developments meet the needs of our customers in markets such as SiGe epitaxy, high and low-z dielectrics and compound semiconductor foundries. For example, Ge composition and layer thicknesses to a repeatability of 0.5% of value on box layers are now routinely available in a non-contacting, non-destructive and completely automated tool, which meets the demanding tool matching requirements of major manufacturers. As one X-ray expert in a major US semiconductor manufacturer commented after a presentation of the Fab200™: **"I'm impressed with all the engineering work Bede has done to move XRD into the clean room for metrology."**

ergonomic operation

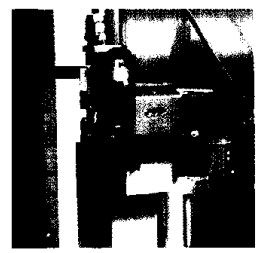




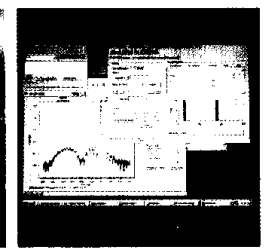
full robotic handling from 2" to 300mm



up to 300mm samples



bede microsource® - ultimate performance in sub-mm spots



recipe driven, automated control and analysis software

move into bigger premises

Bede Scientific Incorporated, Bede plc's US subsidiary, will be relocating to its new 5,600 sq ft facility on July 1st. The company has operated out of its current 1,800 sq ft office since it was established in 1996. The new facility is next door to the original office and will include a state-of-the-art teleconference center for training and education. This facility will also have a spacious analytical laboratory installed with all the latest Bede High Resolution X-ray Diffraction instruments, a fully stocked parts depot, new service and repair center, instrument staging, a complete shipping area and receiving dock. It has been designed with 20 private offices, a dedicated technical library, an employee lunch room and an attractive reception area. There are also plans for a portable clean room assembly area. The facility is necessary to support Bede plc's increased business in North and South America with improved Technical Support, product service and the addition of new staff in the past year. Bede Scientific Incorporated's new address will be: **14 Inverness Drive East, Suite H-100, Englewood, CO, USA 80112, and the contact numbers will remain Tel: +(303)790-8647 Fax: +(303)790-8648.**